

1 **(June 3, 1996)**

2 **Conformity With And Deviations From Plans And Stakes**

3  
4 The first paragraph of Section 1-05.4 is deleted in its entirety and replaced with the  
5 following:

6  
7 The Contractor shall be responsible for setting and maintaining all alignment  
8 stakes, slope stakes, and grades necessary for the construction of the roadbed,  
9 surfacing, paving, channelization, illumination, signing, bridges, noise walls and  
10 retaining walls, if such construction is included in this project. Except for the  
11 survey control data to be furnished by the Contracting Agency, calculations,  
12 surveying, and measuring required for setting and maintaining the necessary lines  
13 and grades shall be the Contractor's responsibility. The Contractor shall provide  
14 the Contracting Agency copies of such calculations and staking data when  
15 requested by the Engineer. Copies of the Contracting Agency provided survey  
16 control data are available for the bidder's inspection at the office of the Engineer.

17  
18 Any staking requirements for the project that do not fit field conditions will be  
19 reviewed and if necessary adjusted by the Engineer. Any necessary revision to  
20 the staking information will be provided to the Contractor for use in completing the  
21 work.

22  
23 To facilitate the establishment of these lines and elevations, the Contracting  
24 Agency will provide the Contractor with the following survey control:

25  
26 **Roadbed, Surfacing, and Paving**

- 27 1. Elevation benchmarks and center line alignment control points for the  
28 main line, one time only.  
29  
30 2. Technical advice if requested.  
31  
32 3. Computed grades where needed.  
33  
34 4. Horizontal curve deflections.  
35  
36 5. One copy of transit notes showing reference to control points.

37  
38 **Bridges, Noise Walls and Retaining Walls**

- 39 1. An elevation bench mark and two points on roadway center line in the  
40 vicinity of each bridge, noise wall and retaining wall, one time only.  
41  
42 2. Technical advice if requested.  
43  
44 3. Computed elevations at the top of the roadway deck at 0.1 points along  
45 center line of each girder web. (All form grades, etc., shall be computed  
46 by the Contractor).  
47  
48 4. One copy of transit notes showing references to control points in the  
49 vicinity of the bridge, noise wall or retaining wall.

50  
51 The Contractor shall give the Contracting Agency three weeks notification to allow  
52 adequate time to provide the above data.

53  
54 The Contractor shall ensure a surveying accuracy within the following tolerances:

- 55 1. Slope stakes ±30 millimeters  
56

1	2. Subgrade blue tops set 15 mm below grade	±3 millimeters
2	3. Stationing	±3 millimeters
3	4. Alignment	±3 millimeters
4	5. Surfacing red and yellow tops	±3 millimeters
5	6. Paving pins for surfacing or paving	±2 millimeters
6	7. Superstructure elevations	±2 millimeters
7		variation from
8		plan elevation
9	8. Substructure	±5 millimeters
10		variation from
11		plan grades.

12  
13 The Contractor shall slope stake the roadway before any construction may  
14 proceed. Slope stake offsets shall be maintained for the duration of the project  
15 unless otherwise approved by the Engineer.

16  
17 Slope stakes shall be set at 20 meter intervals.

18  
19 Subgrade bluetops and surfacing red and yellow tops shall be set at 20 meter  
20 intervals in tangent sections, 10 meter intervals in curve sections, and 3 meter  
21 intervals in intersection radii.

22  
23 Paving pins shall be at 10 meter intervals.

24  
25 At the Contracting Agency's discretion, it may spot-check the Contractor's  
26 surveying. These spot-checks will not change the requirements for normal  
27 checking and testing as described elsewhere, and do not relieve the Contractor of  
28 the responsibility of producing a finished product that is in accordance with the  
29 contract.

30  
31 In all disputes concerning accuracy of lines and elevations, the Contracting  
32 Agency shall be assumed correct and the Contractor shall correct the  
33 discrepancies before construction work may proceed. No additional  
34 compensation will be paid for this corrective work.

35  
36 ***Payment***

37 Payment will be made in accordance with Section 1-04.1 for the following bid  
38 item:

39  
40 "Surveying", lump sum